International Journal of Life Sciences, Biotechnology and Pharma Research Vol. 12, No. 4, Oct-Dec 2023 Online ISSN:2250-3137
Print ISSN: 2977-0122

Original Research

To Study The Role Of Post Placental CuT 380A insertion after caesarean delivery

[1]Dr. Mahendra Kumar Bairwa, [2]Dr. Debashree Dutta, [3]Dr. Divya P. Wangoo, [4]Dr. Shivangi

[1,2]Assistant Professor, ESIC Hospital and Medical College, Faridabad
[3]Assistant Professor, Department of Physiology, North Delhi Municipal Corporation Medical College and Hindu Rao Hospital, Delhi-110007
[4]Assistant Professor, Maharaja Suhel Dev Autonomous State Medical College & Mahrishi Balark Hospitals (MSDAS), Bahraich, U.P.-271801

Correspondence Address
Dr. Shivangi
Assistant Professor, Maharaja Suhel Dev Autonomous State Medical College & Mahrishi Balark Hospitals (MSDAS), Bahraich, U.P.-271801 E-mail: shivangi751994@gmail.com

Received: 18 October, 2023 Accepted: 17 November, 2023

ABSTRACT

Background: An interval of 3 years is advocated between 2 consecutive pregnancies more so in women undergoing caesarean section. Short inter conception period after caesarean section and associated increased morbidity, mortality and repeat caesarean section can be avoided by post placental CuT 380A insertion during caesarean section.

Aims and Objectives: To study the role of post placental intrauterine contraceptive device insertion in women undergoing caesarean section.

Material and Methods: Study was conducted in the Department of Obstetrics & Gynaecology in Lady Hardinge Medical College and Smt. Sucheta Kriplani Hospital, New Delhi. A total of forty subjects were included who underwent post placental IUCD insertion after Caesarean section.

Results: In the present study, mean age was 25±4 years. Majority of the women were in between 19-30 years. As per modified Kuppu Swamy's socio economic status scale, maximum number of women (50%) were in lower middle class socio economic status followed by upper middle socio economic status (20%). Amongst the total study population, nearly 7.5% had education till middle school. Most common complication was excessive vaginal bleeding. At 3 months follow up 10.5% patients had complaints of excessive vaginal bleeding. No case of perforation or pregnancy occurred. The possible reason for low perforation rate in post placental insertion was due to thick uterine wall.

Conclusion: PPIUCD insertion is an effective, safe, convenient, low cost and long term method of post-partum contraception. Present study recommended that, it should be routinely offered to all eligible post-partum women undergoing cesarean section.

Keywords: Post placental CuT380A, Caesarean Section

INTRODUCTION

IUCD can be inserted safely at any time during the first 48 hours after delivery, can also be inserted after 6 weeks post partum (Extended PP) and after Caesarean section. Short inter conception period after Caesarean section (CS) and associated increased morbidity, mortality and repeat caesarean section can be avoided by post placental CuT 380A insertion during caesarean section. Post placental Intra uterine contraceptive device (IUCD) is a good method for long acting reversible contraception (LARC). CuT 380A is provided free of cost by Government of India. Post placental IUCD after Caesarean section is likely to have lower rates of expulsion. The modern IUCD is a highly effective, safe, private, long-acting, coitus independent, and rapidly reversible method of contraception with fewer side effects. Intrauterine contraception is the most cost-effective method of contraception today. Many women also find the IUCD to be very convenient, because it requires little attention once it is inserted. The IUCD is a long-acting reversible method of contraception with expulsion rates of 5–15 per 100 woman - years of use when used as a post-placental method immediately after cesarean section. As an interval procedure (6 or more weeks after cesarean section) it appears to have a high expulsion rate (5% or higher) notably in older devices. The IUCD does not affect breast feeding and is easy to insert in these women, but appears to

be associated with a higher perforation rate (>1 per 100).[1-10] India's maternal mortality ratio stays at an alarming figure of 97/100000 live births, which cause 1,17000 women to die from pregnancy and child birth complications every year. This contributes to 20% of global maternal deaths. In India, 65% of women in the first year post partum have an unmet need for family planning.[2] Intrauterine devices (IUDs) have been used by women in India for decades for spacing pregnancy. Copper IUDs are the most commonly used type of IUD and the CuT 380A has been found to be most effective IUD available in government sector free of charge. Appropriate times for IUCD insertion in the post partum periods include the post placental IUCD insertion, the immediate postpartum IUCD insertion and the trans caesarean IUCD insertion. Taking advantage of the immediate post partum period for counseling on family planning, IUCD is a good option as a contraceptive method. The increased institutional deliveries provide the opportunity to provide women easy access to immediate PPIUCD services. However, despite the reported safety and efficacy, obstetricians are still hesitant to implement the advantages of Copper T 380A IUCD to women undergoing operative delivery. Initiating IUCD use during caesarean has the added advantage of eliminating a six week postpartum waiting period and an additional hospital visit.[11-15]

To address the unmet need during the post-partum period the Ministry of Health and Family Welfare, Government of India developed a national strategy to expand Post Partum Intrauterine Device (PPIUD) services among public sector facilities. Since, not much work has been done in assessing the complications and side effects of PPIUCD in caesarean deliveries, therefore, present study was undertaken.

Aims & Objectives: To study the role of post placental Intrauterine contraceptive device (IUCD) insertion in women who underwent caesarean section.

Materials and methods: The present prospective observational study was conducted in the department of Obstetrics and Gynaecology, Lady Hardinge Medical College and Associated hospitals, New Delhi. Study population consists of women who desired post placental insertion of CuT 380A during Caesarean section.

Inclusion Criteria: Women willing for post placental CuT 380 A during Caesarean section and follow up at 6 weeks and 3 months.

Exclusion Criteria: Severe thrombocytopenia; Antepartum haemorrage (APH), Post partum haemorrage (PPH); Leaking more than 18 hours and Evidence of chorioamnionitis.

Methodology: An informed consent was taken prior to delivery for insertion of CuT. During caesarean section after delivery of baby, placenta and membrane, IUCD was inserted through the incision in uterus and placed at the fundus manually. Details were recorded on proforma. The Patients was followed at interval of 6 weeks and 3 months. Each women was assessed clinically for any complaints of pain, bleeding and discharge per vagina. Women were asked for any history of expulsion of IUCD. Her menstrual history was elicited and date of last menstrual period were recorded. A per speculum examination was done to visualize thread of IUCD and any abnormal discharge. An pelvic USG was performed for proper placement at 3 months without cost. In case women fails to follow up at specified period they were contacted through telephone.

OUTCOME MEASURES

Primary outcome: Continuation rate of post placental IUCD at 6 weeks and 3 months

Secondary outcome: (i) Expulsion rate of post placental IUCD at 6 weeks and 3 months; (ii) Displacement rate of post placental IUCD at 6 weeks and 3 months and (iii) Complication rate - pregnancy rate, perforation, infection, AUB

Statistical analysis: Data was expressed as mean±standard deviation for quantitative variables. Data was expressed as percentages for qualitative variables. Results of the study were tabulated and analyzed by using SPSS v. 16.0.

RESULTS

In the present study, mean age was 25±4 years. Majority of the women were between 19-30 years. As per modified Kuppu Swamy's socioeconomic status scale, maximum number of women (50%) were in lower middle class socio economic status followed by upper middle socio economic status (20%). Amongst the total study population, nearly 7.5% had education till middle school.

Table 1:Distribution of women according to obstetrics score

Obstetrics score	N	Mean	Std. Deviation
G	40	2.22	1.000
P	40	.88	.723
L	40	.78	.620
A	40	.35	.662

Table1: shows of women according to obstetrics score (Gravida). Further, majority of women in gravid 2 was 35%. Majority of women in parity 2 was 55%. Majority of women having living baby 2 was 57.5%.

Table 2: Distribution of women according to Period of gestation (POG)

POG in weeks	N	%
36-37	2	5.0%
37-38	14	35.0%
38-39	13	32.5%
>39	11	27.5%
TOTAL	40	100%

Table 2: shows distribution of women according to Period of gestation (POG). Mean POG was 38.62±1.09. Mean hours of LPV was 6.35±2.79 hours. Mean hours of LPV was 7.52±4.14 hours.

Table 3: Distribution of women according to rupture of membrane

Rupture of Membrane	N	%
Spontaneous	33	82.5%
ARN	2	5.0%
No rupture	5	12.5%
TOTAL	40	100%

In this study, spontaneous rupture of membrane was 82.50%. ARM was in 5% patients. 12.5% patients didn't have rupture of membrane (elective LSCS).

Table 4: Distribution of women according to complaining of pain at 6 weeks and 3 months

Pain at 6 weeks	N	%
Yes	7	17.5%
No	33	82.5%
TOTAL	40	100%
Pain at 3 months		
Yes	5	13.2%
No	33	86.8%
TOTAL	38	100%

About 17.5% of patients in LSCS group developed Pelvic pain at 6 week follow up. Similarly at 3 months follow up only 13.2% subjects had pelvic pain. (Table 4). Distribution of women according to complaining of bleeding per vaginal at 6 weeks and 3 months showed that over all up to 3 months bleeding was 17.3% and 15% at 6 weeks follow up. At 3 months followup10.5% patients had complaints of excessive vaginal bleeding. About 2.5% of subjects in LSCS group developed vaginal discharge at 6 week follow up and at 3 months follow up only 2.6% subjects had vaginal discharge. In this study, we found that 2.5% of subjects had displacement at 6 weeks follow up. At 3 months follow up 2.7% had displacement.

Table 5: Distribution of women according to expulsion at 6 weeks and 3 months

Expulsion at 6 weeks	N	%
Yes	1	2.5%
No	39	97.5%
TOTAL	40	100%
Expulsion upto 3 months		
Yes	2	5.0%
No	38	95.0%
TOTAL	40	100%

Expulsion of IUCD is very important and well known complication of IUCD. In present study, it was found that at 6 weeks follow up expulsion rate was 2.5%.

Table 6: Distribution of women according to continuation at 6 weeks and up to 3 months

Continuation at 6 weeks	N	%
Yes	38	95.0%
No	2	5.0%
TOTAL	38	100%
Continuation at 3 months		
Yes	35	92.1%
No	3	7.9%
TOTAL	38	100%

In this study, continuation rate was 95% at 6 weeks. Continuation rate was 92.1% upto 3 month follow up.

DISCUSSION

This study was carried out to determine acceptability, uptake and outcome of PPIUCD placement together with assessing the success that is the continuation rate at the end of the puerperium in a cohort of mothers who underwent caesarean delivery and required a long term reversible method of contraception. Present study of PPIUCD use in India showed that most women were satisfied with their choice of immediate insertion of an IUCD and that the rates of problems and complications were relatively low. Though post-partum IUCD insertion immediately after delivery is an upcoming topic, its efficacy and safety is to be determined.

In this study, mean age was 25±4 years. Majority of the women were between 19-30 years. The mean age of women included in the study of Singal et al[3] was 23.12±2.42 years. 20-30 year old women were there in that study which is similar to our study. In this study, majority of CuT insertion was taken in parity 2 (55%). In this study, 12% of women had parity 3 or more. 35% of study subject shad only one living child which indicates early acceptability of long term contraceptive. Similar results of earlier acceptance of intrauterine contraceptive device was found in a study in which authors found that acceptance is most common among primigravida women (31.46%).[5] In case of multiparous it was (12.5%) and these finding are contrary to that of the another study with higher acceptance in multiparous clients (65.1%). About 17.5% of patients developed pelvic pain at 6 week follow up and at 3 months follow up only 13.2% subjects had pelvic pain. About 2.5% of subjects developed vaginal discharge at 6 week follow up and at 3 months follow up only 2.6% subjects had vaginal discharge. Almost same result in Singal et al study.[3] In this study, we found that 7.5% of subjects had complaints of fever at 6 weeks follow up. At 3 months follow up 2.6% patients had complaints of fever. Fever in post partum period was due to urinary tract infection, wound infection or a component of pelvic infection. Most common complication in our study was excessive vaginal bleeding, about 22.5% of subjects had complaints of excessive vaginal bleeding at 6 weeks follow up. At 3 months follow up 10.5% patients had complaints of excessive vaginal bleeding. Welkovic et al[16] studied post-partum bleeding and infection after post placental IUD insertion and found no difference in the incidence of excessive bleeding. In a review by Anita L. Nelson safety, efficacy and patient acceptability of CuT 380A was studied.[17] Expulsion of IUCD is very important parameter which has been studied in present study and we found that up to 3 months follow up expulsion rate was 2.5%. In a study by Jain et al expulsion rates of the immediate PPIUCD at 4-6 weeks interval were 3.5%.[18] Lower expulsion rate in their study is explained by the fact that follow up duration was just 6 weeks. But similar to our study, multi country study done in Belgium, Chile and Philippines has showed the rate of expulsion at 1 month ranging from 4.6 to 16%.[19,20] Expulsion of PPIUCD usually occurs in the first few months after insertion. Similar to our study expulsion rate was higher in caesarean group conducted by Jisha et al.[21] In present study, overall the removal rate of IUCD at 3 month follow up was 7.5%. Most common cause for removal was excessive bleeding. IUD removal rate was 13.54% in study by Sharma et al.[22] Similar to our study the common causes for removal were pelvic pain and menorrhagia. Women most commonly reported expected side effects of IUCDs as the reasons for the removal, including bleeding and abdominal pain. These findings suggest that there is room for strengthening PPIUCD counseling services, particularly regarding normal side effects and complications that arise from method use.

CONCLUSION

Present study concluded that PPIUCD insertion is an effective, safe, convenient, low cost and long term method of post-partum contraception. This study recommends that, it should be routinely offered to all eligible post-partum women undergoing institutional deliveries. Limitation of the study was that it was conducted in a tertiary centre, the findings can not necessarily be generalized to all of India since the hospital involved is a convenience sample rather than a sample representative of the country. The present study is also limited in that, long-term expulsion rates could not be determined since follow-up was only conducted at 3 months following birth.

REFERENCES

1. Mishra S. Evaluation of safety, efficacy, and expulsion of post placental and intra-cesarean insertion of intrauterine contraceptive devices (PPIUCD). J Obstet Gynaecol India 2014;64(5): 337–43.
2. Goldstuck ND. Steyn PS. Intrauterine contraception after cesarean section and during lactation. Int J Women Hlth 2013;5811-8.
3. Singal S. Clinical outcome of post placental copper T 380A insertion in women delivering by Caesarean Section. J Clin Diag Res 2014;8(9):01–04.
4. Ahuja R, Rahtore A. Continuation rates of postpartum intrauterine contraceptive device (IUCD) insertion: randomized trial of postplacental versus immediate postpartum insertion (conference abstract). Br J Obstet Gynaecol 2014;121:1-2.
5. Singh N, Singh S, Pathak A. Comparison of immediate post placental and early post partum intrauterine device insertion (abstract). Br J Obstet Gynaecol 2014;121:7-8.
6. Ogburn T, Espey E, Singh R. A randomized trial of immediate postpartum versus interval insertion of an intrauterine device. Contraception 2013;88(3):455-8.
7. Averbach S, Lester F, Fortin J. Acceptability of the IUD among women who opted out of a randomized controlled trial of intra cesarean insertion of the copper-T380A in Kampala, Uganda. Contraception 2012;86:318-20
8. Goyal N. Post placental intra uterine contraceptive device. Indian J Appl Res 2015;5:454-5.
9. Dahlke JD, Terpstra ER, Ramseyer AM. Post partum insertion of levonorgestrel-intrauterine system at three time periods: a prospective randomized pilot study. Contraception 2011;84(3):244-8.
10. Shukla M, Qureshi S, Chandravati. Post-placental intrauterine device insertion: A 5 years experience at a tertiary case centre in North India. Indian J Med Res 2012;136(3):432-5.
11. Kappa N, Kathryn M. Curtis, Intrauterine device insertion during the post partum period: a systematic review. Contraception 2009;80:327-36.
12. Morrison C, Waszak C. A study showed clinical Outcomes of Two Early Post partum IUD Insertion Programs in Africa. Contraception 1996;53:17-21.
13. Çelen S, Sucak A, Yıldız Y. Immediate post placental insertion of an intrauterine contraceptive device during cesarean section. Contraception 2011;84:240-43.
14. El Beltagy NS, Darwish EA, Comparison between Cupper T380 IUD and Multiload 375 IUD in early postpartum insertion. Middle East Fertil Soc J 2011;16:143-8.
15. Erika L, Evelyn C. Immediate post placental IUD insertion at cesarean delivery: a prospective cohort study. Contraception 2012;86:102–105.
16. Welkovic S, Costa L, Faundes A, Ximenes R, Costa C. Postpartum bleeding and infection after post placental IUD insertion. Contraception 2011;63:155-8.
17. Anita L. Nelson. Safety, efficacy and patient acceptability of the copper T-380 A intrauterine contraceptive device. Clinical Medicine Insights. Women's Hlth 2011;4:35-4
18. Jain N, Akhtar N. A study to compare the efficacy, safety & outcome of immediate post partum intrauterine contraceptive device (PPIUCD) with that of delayed insertion. Int J Sci R 2015;4(2).
19. Blumenthal P, Shiliya N, Neukom J, Chilambwe J, Vwalika B, Prager B, et al. Expulsion rates and satisfaction levels among immediate postpartum IUD users in peri-urban Lusaka, Zambia. Contraception. 2011;84:320.
20. Tatum HJ, Beltran RS, Ramos R, Van Kets H, Sivin I, Schmidt FH, et al. Immediate post placental insertion of GYNE-T 380 and GYNE-T 380 postpartum contraceptive devices: randomized study. Am J Obstet Gynecol 1996;175(5):1231-5.
21. Jisha Bai CP. A study on the complications of immediate post-partum IUCD insertion. J Evidbased Medi Healthcare 2015;2(9):1246-51.
22. Sharma A, Gupta V, Bansal N, Sharma U, Tandon A. A prospective study of immediate postpartum intra uterine device insertion in a tertiary level hospital. Int J Res Med Sci. 2015;3(1):183-7.